UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,932	03/23/2005	Stefan Margheurite Jean Willems	BE 020029	6615

24737 7590 06/15/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
LAO, LUN S	

ART UNIT	PAPER NUMBER
2615	

MAIL DATE	DELIVERY MODE
06/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,932	WILLEMS, STEFAN MARGHEURITE JEAN	
	Examiner	Art Unit	
	Lun-See Lao	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. This action is in response to the amendment filed on 04-27-2007. claims 1-7 have been amended and claims 1-7 are pending.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guideline are suggested for the applicant's use.

Content of Specification

(a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

(b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

(c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

(d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).

(e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

(f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:

(1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

(2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

(g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

(i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the

field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

(k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

(l) Sequence Listing, See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Drawings

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Fig. 1 formal drawings and without handwriting is required by the examiner. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by Lowe (US PAT 5,838,800).

Consider claim 3 Lowe teach an audio processing system comprising (see fig.2):

first combination means (40) to derive from left and right audio signals composed audio signals and,

detection and comparing means (66,62,44) to measure the energy content of the composed audio signals above a predetermined frequency value and to compare (48) the energy content with a predetermined threshold value (see fig.4a, (74)), second combining means (62,66) to derive, when this energy content falls below said threshold value, an improved composed audio signal from a signal obtained from and decorrelated with respect to the composed audio signal and the composed signal, and third combining means (24,28) to obtain said left and right audio signals (10,12) from the composed signal and the improved composed audio signal (see figs 2-4 and col. 2 line 48-col. 3 line 65).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe (US PAT. 5,838,800) in view of Tsuji (US PAT. 6,725,027)

Consider claims 4-5 Lowe does not clearly teach the audio processing system characterized in that wherein the detection and comparing means comprise a high pass filter, energy measuring means to detect the energy content of the filtered composed audio signal, and a comparator to indicate whether or not the measured energy content is above said predetermined threshold value; and the high pass filter has a cut-off frequency of about 3 kHz.

However, Tsuji teaches the audio processing system characterized in that wherein the detection and comparing means comprise a high pass filter (see fig.3 (5a)), energy measuring means to detect the energy content of the filtered composed audio signal, and a comparator (5c) to indicate whether or not the measured energy content is above said predetermined threshold value (see col.4 line 64-col. 5 line12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Tsuji into Lowe so that the audio

spatial enhancement apparatus was taught by Maher could have been minimizing output distortion.

On the other hand, Lowe and Tsuji do not clearly teach that a high pass filter has a cut-off frequency of about 3 kHz.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Lowe and Tsuji by implementing a high pass filter with a cu-off frequency as specified since the specific cut-off frequency of the high pass filter is determined base on the designer's needs so that undesired signal could have been filtered out by the high pass filter.

Consider claims 6-7 Lowe teaches the audio processing system wherein means are provided comprising a delay element (see fig.2 (22,26)) and a filter means (72,78) to derive said improved composed audio signal from the composed audio signal (see figs 2-4 and col. 2 line 48-col. 3 line 65); but Lowe does not clearly teach that a band pass filter means are formed by a high pass filter with a cut-off frequency of about 1 kHz and a low pass filter with a cut-off frequency of about 6 kHz.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Lowe by implementing a bank pass filter with a cut-off frequency as specified since the specific cut-off frequency of the bank pass filter is determined base on the designer's needs so that undesired signal could have been filtered out by the bank pass filter.

8. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maher (US PAT. 6,111,958) in view of Hirabayashi (US PAT.5,210,796).

Consider claim 1 Maher teaches that a method for processing audio signals (see fig.1) in which from left and right audio signals composed audio signals are derived, comprising the steps of:

measuring ((see fig.2 (214)) the energy content of the composed audio signals above a predetermined frequency value (see col. 3 line 42-col. 4 line 12) ,

comparing (see fig.6 (624)) the energy content with the left and right input signals, deriving a signal from and decorrelated with respect to the composed audio signal; adding said signal to the composed signal to obtain an improved composed audio signal (see col. 5 line 1-col. 6 line 25), and

determining (see fig1 (40,42,44,48)) said left and right audio signals (20,22) are obtained back again from the composed signal and the improved composed audio signal (see col.3 line 13-42); but Maher does not explicitly teach comparing the energy content with a predetermined threshold value, wherein when the energy content falls below said threshold value, deriving a signal from.

However, Hirabayashi teaches comparing the energy content (see figs 2A-2L) with a predetermined threshold value, wherein when the energy content falls below said threshold value, deriving a signal from (see col. 4 line 18-col.7 line 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hirabayashi into Maher so that the

audio spatial enhancement apparatus was taught by Maher could have been minimizing any harmful influence derived from erroneous measuring.

Consider claim 2 Maher teaches the method characterized in that the decorrelated signal is obtained by delaying and filtering the composed signal (see figs 1-2 and see col. 3 line 13-col. 4 line 18).

Response to Arguments

9. Applicant's arguments with respect to claim1-7 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant argued that. Independent claim 3, this claim recites subject matter similar to that recited in claim 1 and is also allowable for the same arguments made in response to the rejection of claim 1, which are reassert, as if in full, herein (see the remark page 6, 8th paragraph.

The examiner disagreed with that, claim 3 recited limitatiom is different from claim 1 recited limitation. The prior of Low (800) meets the limitation as recited in claim 3. Therefore the claim 3 is maintained and see the final rejection.

Applicant further argued that claims 4-7 stand rejected under 35 USC 103(a) as being unpatentable over Lowe and well-known designer's needs (see remark page 6 last paragraph).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention

where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the examiner responds that, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Lowe by implementing a high pass filter with a cu-off frequency as specified since the specific cut-off frequency of the high pass filter is determined base on the designer's needs so that undesired signal could have been filtered out by the high pass filter.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maejima (US PAT. 5,155,770) is cited to show other related method for processing audio signals and audio processing system for applying this method.

11. Any response to this action should be mailed to:

Mail Stop ____(explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
(571) 273-8300

Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street

Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao, Lun-See whose telephone number is (571) 272-7501 The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao, Lun-See L. S.
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 05-31-2007

VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

6/11/07